CLAIMS

1. Process for preparing a biological material for examination with a microscope,
characterised in that a transparent film (3) for smoothing out irregularities on the surface of the biological material (2) in order to improve visual characteristics of the biological material (2) is applied onto a surface of the biological material (2).

2. Process according to Claim 1,
characterised in that the film (3) is sprayed onto the surface of the biological material (2).

3. Process according to Claim 1,
characterised in that the film (3) is brushed onto the surface of the biological material (2).

4. Process according to Claim 1,
characterised in that the film (3) is applied onto the surface of the biological material (2) by immersing the biological material (2) in an immersion bath.

5. Process according to any one of the preceding claims,
characterised in that the film (3) is not toxic.

6. Process according to any one of the preceding claims,
characterised in that the film (3) is inert and when applied onto the biological material (2) the biological material (2) is not disadvantageously affected chemically or biologically.

7. Process in accordance with any one of the preceding claims,
characterised in that the film (3) contains a transparent preparation, mixture and/or pure substance.

8. Process according to Claim 7,
characterised in that the preparation, mixture or pure substance (2) is a preparation, mixture and/or pure substance selected from the group of short- or long-chain and/or totally or partly unsaturated acids and/or bases, poly-amides, -alcohols, -carbonates or silicones or mixtures thereof.

9. Process according to any one of the preceding claims, characterised in that the film (3) when applied onto the surface of the biological material (2) has a character promoting the visual characteristics of the biological material (2) with regard to balance of the refractive index, suppression of undesirable light scattering and/or improved visualization of the biological material.

10. Process according to any one of the preceding claims, characterised in that the film (3) is a laser light absorbing film.

11. Process according to any one of the preceding claims, characterised in that the film (3) is a UV laser light absorbing film.

12. Process according to any one of the preceding claims, characterised in that the film has a preparation, mixture and/or pure substance soluble in an aqueous solution.

13. Process according to any one of the preceding claims, characterised in that the film (3) contains at least one substance for systematically affecting the visual characteristics of the biological material (2) when radiated with light.

14. Process according to Claim 13, characterised in that the film (3) contains at least one substance preserving the RNA of the biological material (2) when radiated with light.

15. Process according to Claim 13 or 14, characterised in that the film (3) contains at least one substance systematically affecting the fluorescence visual characteristics of the biological material (2).

16. Process according to Claim 15, characterised in that the film (3) contains a fluorophor for achieving a fluorescence with a certain light wavelength.

17. Process according to Claim 15 or 16, characterised in that the film (3) contains at least one substance, which prevents fluorescence with a certain light wavelength.

18. Process according to Claim 17, characterised in that the substance is selected for prevention of fluorescence in such a manner that it prevents the fluorescence with the certain light wavelength by quenching in the sense of a Stern Vollmer analysis substantially more effectively with regard to bimolecular

quenching than its self de-excitation permits with inherent uni-molecular kinetics.

19. Process according to any one of the preceding claims, characterised in that the film (3) has a preparation, mixture and/or pure substance, which is carried on the surface of the biological material (2).

20. Process according to Claim 19, characterised in that the solvent, in which the preparation, mixture and/or pure substance is dissolved, is a solvent selected from the group of short-chain alcohols, ketones, esters, benzenes or water.

21. Process according to any one of the preceding claims, characterised in that the film (3) is constituted in such a manner that after solidification in air it facilitates cutting and/or a catapulting of the film (3) as well as of the biological material (2) present underneath with a laser beam, in particular a UV laser beam.

22. Arrangement with carrier means (1) and a biological material (2) present on the carrier means (1), characterised in that a transparent film (3) is applied onto the surface of the biological material (2) for smoothing out irregularities on the surface of the biological material (2) in order to improve the visual characteristics of the biological material (2) for examination with a microscope.

23. Process according to Claim 22,

characterised in that the biological material (2) is a biological material prepared according to any one of Claims 1-21.